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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,654	11/27/2001	Per Pedersen	1076.40921X00	8106

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EXAMINER

PHAM, TUAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/993,654		PEDERSEN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	TUAN A. PHAM		2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see Applicant's remark, filed on 04/04/2005, with respect to the rejection(s) of claim(s) 1-11 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Lin (U.S. Patent No.: 6,084,976).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enting et al. (U.S. Patent No.: 5,923,750, hereinafter, "Enting") in view of Lin (U.S. Patent No.: 6,084,976).

Regarding claim 1, Enting teaches a mobile telecommunications device (see figure 4, hand-held telephone 33) and method comprising a casing (see figure 4, housing 34), an earpiece (i.e., loudspeaker) (see figure 1, loudspeaker 4), and an internal acoustic path in the housing of a telephone handset (see col.2, ln.4-12, the acoustic path start from the loudspeaker 4 to the housing 33).

It should be noticed that Enting fails to teach a cover (i.e., resonant wall) associated with the earpiece to define a resonant cavity between the earpiece and the casing, wherein the cover has an opening therein for the transmission of sound from the earpiece via the cavity into open end formed between the casing and the cover. However, Lin teaches a cover (i.e., resonant wall) (see figure 3, resonant wall 230, col.4, ln.59-67) associated with the earpiece (i.e., loudspeaker 10, figure 3) to define a resonant cavity (see figure 3, resonant chamber 23) between the earpiece and the casing (see figure 3, housing 20), wherein the cover has an opening therein for the transmission of sound from the earpiece via the cavity into open end formed between the casing and the cover (see figure 3, sound hole 231, resonant wall 230, housing 20, col.3, ln.15-41, col.4, ln.59-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lin into view of Enting in order to improve the impulse noise as suggested by Lin at column 1, lines 50-59.

**Regarding claim 2**, Enting further teaches a mobile telecommunications device wherein the acoustic path extends laterally away from the earpiece (see col.2, ln.5-12). Lin teaches casing and the cover (see figure 3, case 20, resonant wall 230).

**Regarding claim 3**, Lin further teaches a mobile telecommunications device wherein the cover is spaced from the earpiece by a gasket (see figure 1, gasket 6, col.5, ln.43-48).

**Regarding claim 8**, Enting further teaches a mobile telecommunications device wherein the casing has a plurality of apertures therein for the external transmission of sound from the device via the chamber and the acoustic path (see figure 1, aperture 23, col.2, ln.5-10). Lin teaches the resonant cavity (see figure 3, chamber 23).

**Regarding claims 10**, Enting further teaches a mobile telecommunications device and method comprising a mobile telephone (see figure 4).

**Regarding claim 11**, Enting teaches a mobile telecommunications device (see figure 4, hand-held telephone 33) and method comprising a casing (see figure 4, housing 34), an earpiece (i.e., loudspeaker) (see figure 1, loudspeaker 4), and an internal acoustic path in the housing of a telephone handset (see col.2, ln.4-12, the acoustic path start from the loudspeaker 4 to the housing 33).

It should be noticed that Enting fails to teach a cover (i.e., resonant wall) associated with the earpiece to define a resonant cavity between the earpiece and the casing wherein the method includes the step of tuning the cover to the frequency of the earpiece such that the configuration of the casing has substantially no effect on the acoustic response of the earpiece. However, Lin teaches a cover (i.e., resonant wall)

(see figure 3, resonant wall 230, col.4, ln.59-67) associated with the earpiece (i.e., loudspeaker 10, figure 3) to define a resonant cavity (see figure 3, resonant chamber 23) between the earpiece and the casing (see figure 3, housing 20), wherein the method includes the step of tuning the cover to the frequency of the earpiece such that the configuration of the casing has substantially no effect on the acoustic response of the earpiece (see col.4 through col.5, ln.59-67 through 1-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lin into view of Enting in order to improve the impulse noise as suggested by Lin at column 1, lines 50-59.

**Regarding claims 12**, Enting further teaches a mobile telecommunications device and method comprising a mobile telephone (see figure 4).

**4. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enting et al. (U.S. Patent No.: 5,923,750, hereinafter, "Enting") in view of Lin (U.S. Patent No.: 6,084,976) as applied to claim 1 above, and further in view of Matsuyoshi et al. (U.S. Patent No.: 6,549,169, hereinafter, "Matsuyoshi").**

**Regarding claim 4**, Enting and Lin, in combination, fails to teaches the earpiece is mounted to a substrate and the cover is a metal plate. However, Matsuyoshi teaches such feature (see figure 20, col.17, ln.19-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Matsuyoshi into view of Enting and Lin in order to improve the sound for the mobile phone.

**Regarding claim 6**, Lin further teaches the resonant cavity is partially formed by a depression in the plate (see figure 3, chamber 23, resonant wall 230).

5. **Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enting et al. (U.S. Patent No.: 5,923,750, hereinafter, "Enting") in view of Lin (U.S. Patent No.: 6,084,976) as applied to claim 1 above, and further in view of Anders Weckstroem (Pub. No.: EP000909077A2).**

**Regarding claim 7**, Enting and Lin, in combination, fails to teach improve the leak tolerance in an earpiece. However, Anders Weckstroem teaches such feature (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Anders Weckstroem into view of Enting and Lin in order to improve the sound for the mobile phone.

6. **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enting et al. (U.S. Patent No.: 5,923,750, hereinafter, "Enting") in view of Lin (U.S. Patent No.: 6,084,976) as applied to claim 1 above, and further in view of Matsuyoshi et al. (U.S. Patent No.: 6,549,169, hereinafter, "Matsuyoshi") and Jonsson et al. (U.S. Patent No.: 5,963,434, hereinafter, "Jonsson").**

**Regarding claim 5**, Enting, Lin, and Matsuyoshi, in combination, fails to teach the substrate is a lightguide assembly. However, Jonsson teaches such features (see figure 1, lightguide 14, col.1, ln.10-38).

Art Unit: 2643

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Jonsson, into view of Enting, Lin, and Matsuyoshi in order to easy for assembly.

***Allowable Subject Matter***

7. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



### Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (571) 272-7499 and

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Art Unit 2643  
June 11, 2005  
Examiner

Tuan Pham

  
CURTIS KUNTZ  
BY PATENT EXAMINER  
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